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# Behavior Analysts and Cultural Analysis: Troubles and Issues

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Three strategic suggestions are offered to behavior analysts who are concerned with extending the interests of our discipline into domains traditionally assigned to the social sciences: (1) to expand our world-view perspectives beyond the boundaries commonly accepted by psychologists in general; (2) to build a cultural analytic framework upon the foundations we have developed for the study of individuals; and (3) to study the works of those social scientists whose views are generally compatible with, and complementary to, our own. Sociologist C. Wright Mills' distinction between *troubles* and *issues* and anthropologist Marvin Harris's principles of cultural materialism are related to topics raised by these three strategies. The pervasiveness of the "psychocentric" world view within psychology and the social sciences, and throughout our culture at large, is discussed from the points of view of Skinner, Mills, and Harris. It is suggested that a thorough commitment to radical behaviorism, and continuation of interaction between radical behaviorism and cultural materialism, are necessary for maintaining and extending an *issues* orientation within the discipline of behavior analysis and for guarding against dilutions and subversions of that orientation by "deviation-dampening" contingencies that exist in our profession and in our culture at large.

*Key words:* radical behaviorism, cultural materialism, future directions for behavior analysts, world views, psychocentricism, behavior analysis, cultural analysis

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There are a number of recent indications of a growing concern on the part of behavior analysts for extending the interests and strategies of our discipline into domains traditionally assigned to the social sciences—to sociology, anthropology, economics, political science, and so forth. These indications include the 1987 ABA symposia on "Behavior Analysis and Cultural Materialism" and on "War, Peace, and Behavior Analysis," the founding of the *Behavior Analysis and Social Action* journal, the institution of the ABA Award for Outstanding Legislative Action (Goldstein, 1986), and articles by Biglan (1988), Glenn (1985b, 1986), Lloyd (1985), Malagodi (1986), Pennypacker (1986), and Vargas (1985). Our guess is that this concern stems in part from Skinner's many influential writings on social and cultural issues, and in part from our culture's continued resistance to both behavioral technologies and behavioristic theories. Undoubtedly, for some of us, this concern has been fueled in the past decade by continued frustrating and painful contact with the troubles and issues of our times—with much evidence that America is not solving its problems of the nuclear threat, environmental pollution and depletion, political failures, religious fanaticism, educational inadequacies, economic instabilities and inequities, violent crimes, and many others.

Extensions of behavior analytic interests into various domains of sociocultural analysis are complex, and it appears that it might be of some benefit to consider strategies for directing and organizing them. We offer here three strategic suggestions that we think are helpful for facilitating transitions from behavior analysis to cultural analysis, and for illustrating some of the needs for, and advantages of, such extensions of behavior analytic interests. We make these suggestions in the form of three steps that

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we think are necessary for behavior analysts to take, especially in the early stages of these ventures. First, and perhaps the most difficult, we behavior analysts must expand our world-view perspectives beyond the boundaries which have been rather quietly and uncritically accepted by the vast majority of psychologists and by an unfortunately large and equally dismaying percentage of social scientists. Second, we must continue to follow the trail blazed by Skinner's (1953) efforts to build a cohesive cultural analytic framework upon the epistemological, theoretical, and strategic foundations we have developed for the study of individuals. Third, we must devote a considerable amount of our attention to examining the works of those social scientists who have developed theories and strategies compatible with, and complementary to, our own.

Anthropologist Marvin Harris and sociologist C. Wright Mills are two social scientists whose collective works contain much of value for the behavior analyst who is interested in studying or interpreting behavior at the sociocultural level. Marvin Harris, the principal spokesman for the school of evolutionary anthropology known as cultural materialism, has developed a theoretical framework that nicely supplements the radical behavioristic framework of behavior analysis. Cultural materialism supplements radical behaviorism in the sense in which it provides concepts and principles of social organization and change which are compatible with behavioristic principles of individual behavior. Although Mills' writings cover a wide range of topics of interest and value for behavior analysts, we will restrict our initial discussion of Mills to his characterization of the differences in world-view perspectives adopted by most psychologists on the one hand, and some social scientists on the other. An appreciation of Mills' characterization of these differences in world-view perspectives is helpful, we believe, for recognizing both the need for, and advantages of, supplementing behavioristic theory with cultural materialistic theory.

## WORLD VIEWS

### *C. Wright Mills on Troubles and Issues*

In his call for, and depiction of, the "sociological imagination," Mills (1959) noted that the distinction between *troubles* and *issues* is an important feature of all classic work in the social sciences, and argued that an appreciation of this distinction is essential for understanding the fate of individuals within the context of their historical period and sociocultural system. This distinction nicely represents what traditionally has been a major line of demarcation between psychology and the social sciences, between behavioral and cultural analysis. According to Mills, *troubles* are a personal matter: they occur in the individual within the context of the local contingencies of his or her immediate social setting. *Issues,* on the other hand, are a public matter. They have to do with contingencies that go beyond the individual's local environment. They pertain to the organization of many social contingencies and social settings into the larger sociocultural structure. To illustrate this distinction, let us consider a situation in which an individual is unemployed in a city of 100,000. That individual has a personal *trouble,* and for its relief we properly look to the person's skills and immediate opportunities. When 50% of the members of one of that city's potential work groups are chronically unemployed—as is the case in many of today's inner cities with young blacks—that is an *issue,* and, according to Mills, we cannot hope to find its solution solely within the range of opportunities open to one individual or a scatter of individuals.

As a second illustration of the distinction between troubles and issues, consider a middle-class married couple who both, out of economic necessity, work full time. Following an increase in the aversiveness of one of the partner's work settings (increased work requirements or the imposition of a more boring repetitive routine, reduced real income, an increase in isolating and alienating social contingencies, etc.), or threatened or real unemployment of either spouse, either or

both individuals might likely experience a variety of personal troubles. These troubles might include some or all of the following: digestive or cardiovascular ailments, sexual dysfunctions, alcohol or drug abuse, severely reduced frequencies or quality of positive interpersonal interactons, anxiety, sharp increases in frequencies of arguing, or more severe forms of aggression.

From a psychological or troubles perspective, analyses of the causes of such bodily and behavioral changes, and suggested solutions, both tend to focus on the individual's immediate experiences. A conventional psychologist might implicate "feelings of self-worth" as a major source of these personal and interpersonal troubles, while a behavior analyst might consider these troubles (including changes in feelings of self-worth) to be largely a product of decreased frequencies of obtaining both primary and conditioned generalized reinforcers. A conventional psychologist might suggest a variety of different techniques to change the individual's self-descriptive verbal behavior as a means of reducing the sundry troubles, while a behavior analyst might suggest the training of specific skills designed to increase the frequency of obtaining varied reinforcers. It is most likely, in fact, that there would be considerable overlap between conventional psychological interpretations and behavior analytic interpretations of, and remedies for, these troubles.

Although a troubles perspective can indeed be useful in both analyzing and treating personal problems of the kinds briefly sketched above, it is consistent with Mills' view to argue that an issues perspective is required when we attempt to deal effectively with two aspects of the case represented by our troubled couple: First, our troubled couple is not very unique in America today with respect to its likelihood of exposure to these aversive aspects of the economic contingencies of daily life; second, our couple has become less unique in this regard with the passing of each of the last four decades (see Harris, 1981).

Troubles become issues when troubling conditions such as inadequate reinforcement for personally and socially desirable behaviors, or punishment of those behaviors, contact significant and/or increasing numbers of individuals. In short, then, the troubles-issues distinction has to do with replication. While the troubles perspective properly directs our attention to the immediate local contingencies of the individual case, the issues perspective directs our attention to variables responsible for the replication of those contingencies throughout a population. When troubles are replicated for a large or increasing number of individuals, an issue is born, so to speak, and a type and level of analysis which addresses that replication is demanded. In behavior analytic terms, what is required is a shift in focus from attempting to understand how a particular set of social contingencies might affect a given individual to attempting to understand why those contingencies prevail or why they are increasing (or decreasing, as the case may be) with respect to the number of individuals who contact them.

This does not imply any abandonment or dilution of the principal mission of behavior analysis to develop sound and comprehensive principles of individual behavior. It does imply, however, that behavior analysts need to develop concepts and principles that directly pertain to the replication of contingencies across individuals and to changes in normative societal contingencies.

To summarize Mills' central thesis, we cannot hope to understand fully the causes of these current economic contingencies in the daily life of our example couple, or of those experienced by young inner-city blacks, midwestern farmers, Pennsylvania steelworkers, Michigan automotive workers, and—most recently—Wall Street traders, while remaining completely constrained within a troubles framework. The troubles framework may help us understand how certain environmental contingencies may lead to certain troubling consequences for individuals, but it does not—in and of itself—satisfactorily account for the manner in which those contingencies are distributed

throughout a sociocultural system. More importantly, Mills argues that we cannot hope to solve the collective troubles of large segments of populations solely from a troubles perspective. He proposes that such widely shared troubles represent a collapse of the very *structure of opportunities,* and that both the correct statement of the problem and the range of possible solutions require us to consider the economic and political institutions of our society, and not merely the personal situations and skills of a scatter of individuals.[1]

### *The Psychocentric World View*

To sum up the preceding discussion, we may conveniently characterize the world-view perspective advocated by Mills for the social scientist as being issues-oriented and social-structure based. Most psychologists, in contrast, have become constrained within a troubles-oriented perspective in both theory and applications. Conventional American psychologists by and large subscribe to a *psychocentric* world view. By psychocentric we intend to convey what is ordinarily meant by the terms *mentalistic, creationistic, individualistic,* and *noncontextualistic.* In short, psychologists tend to treat the troubles of individuals as just that—as personally bothersome consequences of, usually, personal indwelling psychological processes. Issues, when they are considered at all, are often viewed as simply the aggregation of the collective troubles of a population or segment of a population. The sources of these collective troubles remain, of course, inside the individuals, or, according to the more radical social psychologists, inside the local social setting. A succinct summary of the limited scope of the world view adopted by contemporary psychology has been provided recently by Seymour Sarason (1981): "American psychology, invented in and by American society, went on to invent its subject matter, the self-contained individual" (p. xii).

### *Sarason's Lament and Behavior Analysis*

Rather than dwelling any further at this time on conventional psychology, let us raise the question of whether Sarason's critique might apply to the field of behavior analysis. Few behavior analysts would immediately plead guilty to the charge of either inventing or conceptualizing an individual who is self-contained. Behavior analysts and radical behaviorists, after all, are quintessentially *contextualistic,* to use a term discussed recently by Hayes and Brownstein (1986). That is, we behavior analysts pride ourselves on our guiding strategy of looking to environmental contingencies responsible for the acquisition, differentiation, organization, maintenance, or elimination of behavior. Behavior analysts have emphasized that the phylogenic history of the species, the personal history of the individual, and the individual's current circumstances comprise three ubiquitous sets of environmental determinants of human behavior. Behavior analysts have developed a fairly elaborate conceptual structure, in the form of radical behavioristic theory, that has integrated certain principles of natural, behavioral, and cultural selection into an epistemologically consistent and fairly comprehensive world view.

[1] Unfortunately, Mills rejected the possibility of discovery of any evolutionary or other universal principles of historical change or sociocultural structure. For all intents and purposes he subscribed to the "principle of historical specificity" which holds that social regularities can only be characterized for particular social structures within historically specific eras. Neither at the level of the individual nor at the level of sociocultural systems did the concept of selection by consequences appear to have had much impact upon his formal theorizing. Nonetheless, Mills was often able to analyze with a high degree of sophistication complex social contingencies and their behavioral effects. His (1959) analysis of institutional contingencies operating within sociology during the 1950s to shape a change in focus of sociologists away from being concerned with "large issues" to being content to study unrelated "microtopics" (discussed briefly later in this paper) serves as an example of Mills' ability to see contingencies operate while at the same time lacking a technical view of the mechanisms involved. One can only speculate about how much more successful he might have been had he the advantages of a behavior analytic and/or cultural materialistic foundation.

But, have we behavior analysts gone far enough? Have we developed a conceptual structure sufficiently *radical* to enable us to move comfortably from viewing the world in terms of troubles to viewing it in terms of issues? (We use the term *radical* here in the senses of meaning "thoroughgoing" and "getting to the roots"—cf. Malagodi, 1986.) To return to Sarason's critique, let us put the question this way: Has contemporary behavior analysis, also invented in and by American society, gone on to invent *its* subject matter—what we might call *the self-contained contingency*? That is, are not many behavior analysts often satisfied to account for naturally occurring human behavior in terms of personal contingencies of reinforcement without taking the next step of attempting to account for the existence of those contingencies themselves? Although Skinner (1948, 1953, 1971, 1974, 1978, 1981) and others (e.g., Azrin, 1978; Birnbrauer, 1978; Goldiamond, 1974, 1978; Holland, 1978a, 1978b) have each discussed various aspects of the maintenance of individual contingencies by group contingencies, it appears to us that it is far too often the case that behavior analysts remain content to take individual contingencies more or less as givens. To the extent that this *is* the case, and insofar as cultural analysis is concerned, we behavior analysts are open to a charge that we ourselves have often made in reference to conventional psychology's concentration on "inner man"—the charge of showing a predilection for unfinished causal sequences (e.g., Skinner, 1969). The question at hand, then, can be put in this form: How far *out* from the individual's immediate array of contingencies must we behavior analysts go as we move from troubles to issues, from behavioral to cultural analysis?

### *The Metacontingency: A Conceptual Stepping-stone*

We may begin to answer this question by referring to a concept recently discussed by Sigrid Glenn (1985a, 1986, 1988)—the concept of the *metacontingency*. The metacontingency is the unit of analysis that describes the functional relations between a class of operants, each operant having its own immediate consequence, and a long-term consequence common to all of the operants in the metacontingency. While the individual operant components of the metacontingency are, of course, units of the behavioral repertoires of individuals, the critical feature of the concept of the metacontingency—from a cultural analytic perspective—is that it applies to clusters of operants shared by individual members of groups, and to interlocking interdependencies among different groups. Metacontingent consequences are characteristically those outcomes which are significant for the survival of the group. While the local contingency of reinforcement serves as a behavior analytic explanation for the existence of a particular operant class in a given individual, the metacontingency serves as a cultural analytic explanation for the maintenance of the local social contingencies to which individuals are characteristically exposed. The metacontingency, then, is a conceptual stepping-stone that extends our attention further than the local, personal, contingency of reinforcement, helps us to sever a few more of the historical chains which bind us to a restrictive psychocentric world view, guides us as we move from behavior analysis of individuals to cultural analysis, and facilitates the joining of radical behaviorism and cultural materialism.

## ENTER CULTURAL MATERIALISM

### *Basic Principles of Cultural Materialism*

The concept of the metacontingency, per se, however, does not complete the requirements for building a thoroughgoing cultural analytic framework upon our behavior analytic foundations. As in conceptualizing the individual as a whole (e.g., Skinner, 1953), conceptualizing the culture as a whole requires that we recognize that some contingencies and some

metacontingencies are more important than others. It is at this juncture that cultural materialism provides the behavior analyst with concepts and principles that are both compatible with and complementary to those of radical behaviorism, and that are most helpful in directing attention toward those contingencies and metacontingencies which are most important in determining both sociocultural structure and the evolution of cultural practices.

The two most important features of cultural materialism for the behavior analyst are its taxonomic scheme for allocating cultural practices and contingencies into infrastructural, structural, and superstructural sociocultural components, and its principle of *infrastructural determinism.* In brief, the principle of infrastructural determinism tells us that infrastructural contingencies and metacontingencies—those involved in subsistence production and population regulation—define the limits within which all other contingencies and metacontingencies can operate, shape the forms of domestic and political economies and other structural components, and direct the evolutionary course of sociocultural systems as a whole. The principle of infrastructural determinism guides the cultural analyst's search for fundamental controlling variables much as concepts of unconditioned reinforcement guide the behavior analyst's search.

As the behavior analyst recognizes variables other than unconditioned reinforcers which enter into the shaping of repertoires of individuals, variables such as discriminative stimuli and conditioned reinforcers, the cultural materialist similarly recognizes the influence of variables arising out of structural (domestic and political economies, family structure, education, etc.) and superstructural (art, rituals, science, etc.) components of society. The cultural materialist views the evolutionary consequences of structural and superstructural contingencies and metacontingencies as being dependent upon their relationships with infrastructural contingencies and metacontingencies, much as the behavior analyst in looking at the influence of discriminative stimuli and conditioned reinforcers on behavior views their effects as being dependent upon the relationships these stimuli have with unconditioned reinforcers. The relationships among infrastructural, structural, and superstructural sociocultural components are conceptualized by the cultural materialist in tems of *system-destroying* and *system-maintaining* interdependencies. System-changing positive feedback is most likely to occur as a consequence of changes in infrastructural contingencies, especially those which increase the energy flow per capita or reduce reproductive wastage. Most behavioral-cultural innovations, however, regardless of their sources, have as their most likely outcome system-maintaining negative feedback—that is, the dampening of deviation such that the fundamental characteristics of the whole system are preserved.

## *Cultural Materialism Applied to* America Now[2]

Harris (1981) has based his wide-sweeping analysis of a number of important changes in American cultural prac-

[2] Our discussion of applications of cultural materialism principles is restricted in two ways. First, we refrain from discussing Harris's (1974, 1978, 1980) books in which he has applied these principles in interpreting such diverse phenomena as warfare among the Yanomamo, India's sacred cow taboo, Aztec cannibalism, population-regulating practices of paleolithic hunter-gatherer groups, the rise of Christianity, and so forth. Other behavior analysts (Glenn, 1988; Lloyd, 1985; Vargas, 1985) have reviewed these books and many of these practices in considerable detail, and the interested reader is directed toward those reviews as well as to Harris's books. Behavior analysts thus far have said little about *America Now* (Harris, 1981), however, and it appears reasonable to think that some readers might be interested in some of the phenomena discussed therein. We restrict our brief review of that book to those changes in American culture which bear most directly upon the kinds of troubling conditions described for our example working couple. This is done in order to illustrate more simply than would otherwise be possible the kinds of interlocking sociocultural contingencies Harris implicates as being fundamentally responsible for those changes.

tices during the last 40 years on these cultural materialistic principles. Among the current American cultural characteristics analyzed by Harris are the shoddy quality of goods and services, the wholesale migration of women from the home to the marketplace, the sexual liberation movements, the increase in violent crime, and the rise of religious cults.

We would like to restrict our summary of Harris's interpretation of these changes, and of the interactions among them, to those infrastructural and structural changes that have increased the likelihood of more and more Americans experiencing the kinds of troubles described previously for our example middle-class working couple. In brief, these sociocultural sources of widely shared personal troubles lie in the growth of oligopolies and bureaucracies, in the transition from a goods-producing economy to a service-and-information economy, and in the changed gender composition of the work force. The change in the American economic structure after World War II from a decentralized, individualistic, free-enterprise goods-producing economy to a centralized, regulated, bureaucratized service-and-information-producing economy was a development inherent (but not inevitable) in the practice of free enterprise.[3] Through mergers and acquisitions a handful of corporate giants gained essentially complete control in manufacturing, trade, commerce, farming, mining, and energy production. The resultant stifling of competition drastically altered the countercontrolling contingencies of the marketplace such that prices came to be set by costs of production rather than by contingencies of supply and demand. This dilution of marketplace countercontrolling contingencies allowed for the growth of layers of redundant and inefficient administrators and office workers, and encouraged the toleration of inefficiencies and redundancies in union contracts—which accelerated wage rates faster than productivity rates. Concurrently, similar changes were occurring in the government sector. The continuous enlargement of governmental agencies at federal, state, and local levels was in part a reaction to the cycles of booms and busts of a capitalist economy.

The rapid transition from a goods-producing to a service-and-information economy was fueled by technological advances. As goods production became increasingly automated, concentrated and unionized, the labor market's growth could not be accommodated by adding goods-producing jobs. The increasing numbers of people seeking employment were turned, instead, to relatively cheap, nonautomated, and nonunionized white-collar and pink-collar enterprises in both private and public sectors. The most paradoxical outcome of these transitions was that goods and services became more expensive to the consumer. The promise that increased automation in the production of goods would result in lowered costs turned out to be a hollow one indeed. Increased efficiency on the assembly line was more than offset by the labor-wasting and productivity-lowering consequences of the rise of private oligopolies and of both public and private bureaucracies. It is one of Harris's strongest and most provocative contentions that the major cause of inflation has been the deteriorating quality of goods and services produced by these bureaucracies and oligopolies. While economists in general characteristically implicate the increase in government, business, and personal debt as primary causes of inflation, Harris argues

[3] Changes in sociocultural systems toward centralization and bureaucratization are not viewed by Harris to be either natural or necessary consequences of capitalistic economic systems, per se. The same kinds of changes in sociocultural structure have been seen at least equally as vividly under state socialism. Both capitalistic and state socialistic economic systems have evolved because certain practices in both systems have been successful in intensifying modes of production, in certain environmental contexts and for certain periods. Thus far in human history, however, intensification has inevitably led to declining efficiencies which have had adverse effects on average standards of living, and which have eventually created conditions under which the adoption of new modes of production and changes in the structure of the political economy have become necessary for survival of the sociocultural system as a whole.

that increases in these debts have themselves been driven by the changed social relationships within the workplace and the changed institutional relationships throughout the marketplace. Similar to Skinner's (1948, 1986) interpretations along these lines, Harris argues that bureaucracies isolate workers from the natural and intimate social consequences of their labor, and oligopolies free corporations from the corrective consequences of marketplace competition.

What does all of this have to do with the troubles encountered by our example middle-class couple? First and foremost, Harris suggests that these developments are precisely those that drew increasing numbers of women out of the home and into the work force. Married women needed to find jobs because, after about 1960, the male breadwinner's take-home pay did not increase fast enough to feed, house, clothe, transport, and educate the children of the baby boom. Within this context it is readily understandable why more and more women began to seek jobs. At least equally important, however, is the question of why employers began more and more to seek women to fill these jobs. Harris contends that the rise of bureaucracies and the shift from a goods-producing to a service-and-information-producing economy opened up large numbers of low-paying people-processing and word-processing jobs which were ideal, from the employer's perspective, for nonunionized, literate workers who were initially willing to accept part-time and temporary employment at less pay than comparable males. As prices continued to rise rapidly and the quality of goods and services continued to deteriorate, women became locked into the wage labor force.[4]

The personal consequences for our example couple, and for millions like them, have been that double incomes have become increasingly necessary for the family unit's economic survival. Both partners are confronted daily with far-from-ideal working conditions, often in rapidly changing and insecure settings and markets; they are constantly presented with reminders from the media of the incredibly rapid change in America's economic status from the world's largest creditor nation to its largest debtor, and of the personal economic uncertainties this bodes for the future; they have been jarred by enormous increases in the costs of housing (the median-income earner cannot afford the median-priced home), education, health care, government services (and disservices), and so forth. In behavior analytic terms, our couple is locked into a mutually dependent economic relationship in which many ratio contingencies are being concurrently and drastically stretched; the verbal community amplifies the effects of these contingencies by providing many descriptions of them and of their implications for the future. It is the evolution of America's now-normative mutual-economic-dependency relationship in couples, in concert with the stretching of exchange-ratio contingencies, that generates the kinds of troubling conditions previously described for our example couple.

Cultural materialism, then, provides the kind of interpretation of current cultural practices, and changes in them, that is both compatible with and complementary to behavior analysis and radical behaviorism. The interpretation is compatible in that it is couched in terms of contingencies, metacontingencies, and selection by consequences. The interpretation is complementary in that it provides the sort of molar portrayal of interlocking metacontingencies at the sociocultural level of anlaysis, and of relationships between those metacontingencies and personal contingencies at the individual level of analysis, that is necessary for systematic extensions of behavior principles in the study and interpretation of sociocultural systems.

[4] This interpretation does not deny the existence of the women's movement, nor does it depreciate the movement's expressed goals. It does not imply that women have a natural affinity for the hearth or that women do not receive important and fulfilling benefits in the workplace. See Harris (1980, 1981) for a more detailed account of the interplay between the infrastructural (economic) determinants of the movement and the movement's superstructural (ideological) aspects.

## PSYCHOCENTRICISM REVISITED

The principles of cultural materialism, especially the feedback principles, also bear upon the first topic discussed in this paper, the topic of troubles-oriented and issues-oriented world views. We will conclude our discussion of cultural materialism with an interpretation of the relative popularities of these world views from this perspective, supplemented by some notions from Skinner and Mills.

### *The Pervasiveness of Psychocentricism*

Let us begin our discussion this way: The *issue* that has been *troubling* us for some time is not only that conventional psychology may be inherently inadequate for understanding the issues of our historical period, but also that the social sciences—the disciplines of Mills and Harris—have either largely abandoned issues-oriented world views or have themselves succumbed to various forms of psychocentrism. Sociology has gone from a discipline concerned with the kinds of issues tackled by Veblen, Marx, and Mills—issues pertaining to the follies, failures, and fallacies of capitalism, for example—to a discipline mostly characterized by a proliferation of independent microstrategies nonsystematically applied to an unintelligible scatter of troubles. The position of the cultural materialist in anthropology is comparable to the position of the radical behaviorist in psychology: The cultural materialist, a definite minority-class member, is in constant and undoubting battle with the entrenched defenders of the conventional wisdom. In the main, anthropology is most heavily populated with cognitive idealists who advocate the primacy of mind over matter, with structuralists for whom questions about origins and causality are of little concern, and with obscurantists such as Carlos Castaneda who replace scientific epistemology with phenomenological anarchy.

Yet, our culture continues to accept and support these disciplines in which the majority views offer so little of value for bettering the lives of the citizenry, so little of value for understanding the pressing social problems of our time and for developing solutions. It is especially interesting that our culture's acceptance and support of the behavioral and social sciences has been heavily skewed in favor of conventional psychology. Psychology awards more advanced degrees per annum than the combined totals of anthropology, sociology, economics, and political science. Nearly as many psychology faculty are employed in universities and colleges as the combined totals of anthropology, sociology, and political science. Psychology receives approximately 43% of the total funds allocated to *all* of the behavioral and social science disciplines for research and development in universities and colleges (Educational Testing Service, 1985; National Science Foundation, 1986).

Despite the failures of the social science disciplines, it is arguable that conventional psychology, with its more deeply entrenched and unblinkingly complete dedication to psychocentricism, may be inherently less capable than sociology or anthropology of generating a world view of sufficient scope for a satisfactory understanding of, for example: the rapid and drastic deterioration of America's economic position in the global marketplace; the continued despoiling of the environment by corporations and individuals alike; the 25% dropout rate of our nation's students; the continuation of the arms race and its enormously expensive and dubious extension, in the guise of the "Strategic Defense Initiative," into outer space; the repeated elections of political candidates who ignore or gloss over issues and offer discount snake-oil remedies for troubles; and the interlocking relationships among these and other current cultural practices. Yet, remarkably, our culture continues to favor psychology over the social science disciplines; less remarkably, the social sciences themselves have to a great extent given way to their own psychocentric undercurrents that insidiously subvert efforts to identify the environmental determinants of sociocultural organization.

Why is psychocentricism so pervasive? It is certainly not because the conventional psychocentric world view has had an outstanding record of success—in psychology, anthropology, sociology, or elsewhere—such that a majority of Americans have experienced notable benefits from it.

*Why Psychocentricism Survives*

Skinner, Mills, and Harris have each indirectly provided plausible answers to the related questions of the special popularity of conventional psychology on the one hand, and on the other, of the twin failures of the social sciences in their widespread rejections of Mills' issues perspective and Harris's evolutionary functionalism in favor of their own forms of psychocentricism or independent microstrategies. First, there are psychological (behavioral) reasons for psychocentricism. As Skinner (1974) has pointed out, it is very difficult for the individual to identify the environmental causes of his or her own behavior. Many of the things we observe just before we behave occur within our body, and it is easy to take *them* as the causes of our behavior: "I spoke harshly because I felt angry," or "I ate because I felt hungry." Feelings seem to occur at just the right time to serve as causes of behavior. The same can be said for thoughts (private verbal behavior). The emitted property of operant behavior (the class of our behaviors we are most often called upon to explain to others) adds to the difficulty of identifying environmental causes, since those causes often are temporally remote. The manner in which one learns to identify, correctly or incorrectly, environmental events responsible for both private experience and public behavior depends on whether the members of one's local verbal community remain satisfied with allusions to private "causes" or whether they demand answers to questions such as "But, why did you *feel* angry (or hungry)?" or "What made you *think* of that?" In short, self-knowledge is of social origin. To the extent to which an individual's local verbal community reinforces explanations of behavior in terms of private causes, then to that extent the foundations of a very narrow psychocentricism are established.

Although it is commonplace in our culture for a majority of verbal communities to quite often remain satisfied with explanations of behavior in terms of initiating inner causes, it is also true that most members of our culture learn, in varying degrees, to identify some of the relevant environmental influences on behavior in what Mills (1959) has called "the close-up scenes of their personal orbits"—job setting, family, neighborhood, and so on. For the social group to be able to function as such at all, it is essential, of course, that a minimum amount of accurate descriptions of external influences on behavior be maintained in group members. As Mills points out, however, what ordinary people are directly aware of and what they try to do are essentially bounded by these private orbits within which they live. They do not usually define either their well-being or their troubles in terms of historical change and institutional contradictions. It seems reasonable to suggest that there are two rather obvious reasons why the environmental focus of ordinary people rarely extends beyond the local social setting: First, as difficult as it is to identify relatively immediate (both temporally and spatially) environmental causes, it is certainly much more difficult to identify relationships between those events themselves and remote metacontingencies which are *them*selves abstract, and which involve extraordinarily complex processes. Second, daily "success" in life rarely demands that ordinary people develop the perspective of a Skinner, Mills, or Harris. Because the local social setting, the personal orbit, is the only segment of the environment that the ordinary troubled individual has any chance at all of being able to manipulate directly, the perspective of the ordinary individual is rarely required to extend much further.

These, then, are some of the psychological and sociological reasons why people in general are inclined toward two of the aspects of a psychocentric perspec-

tive: the acceptance of inner experiences as personal causes of behavior, and the restriction of focus on environmental causes to personal orbits. (It should be noted that ordinary people are more inclined to prefer the softer expression "environmental influences" over the stronger "environmental causes" when they do, in fact, extend their search for causes of behavior beyond inner experiences.) People in general are inclined toward the third dimension of psychocentricism, the creationism dimension (what Skinner, 1971, has called the "autonomous inner man" dimension), primarily because it serves deviation-dampening functions. Creationism (autonomous inner man, free will, indeterminacy) serves this function in two respects. First, it is deviation dampening in the psychological and narrow sociological senses of providing general rules and legitimations for punishing deviations from local social norms. Second, creationism—along with the other components of psychocentricism—is deviation dampening in the cultural materialistic sense of helping to maintain the fundamental characteristics of the sociocultural system as a whole.

Both Skinner (1971 and elsewhere) and Harris (1980 and elsewhere) have suggested a number of ways in which the psychocentric world view helps to maintain the fundamental characteristics of the whole sociocultural system. Foremost among these ways, at the sociocultural level of analysis, is that both inner-causation and creationism components nicely serve the interests of the culture's politicians, business leaders, clergy, educators, psychologists, and others charged with assorted responsibilities of making things run effectively and smoothly. It serves the interests of these leaders by exonerating them from blame when ordinary people behave in undesirable ways. If a child's failure to learn in school can be attributed to his or her personal lack of interest in obtaining an education, then the contingencies poorly designed by the education establishment remain unassailable. If a young man's repeated mugging adventures can be attributed to his delinquent character, then failures in the contingencies managed by religious and educational institutions, and structural weaknesses and contradictions of the political economy, can continue to remain in place. If either member of our example middle-class couple continues to be depressed, physically ill, or aggressive, and those difficulties can be attributed to his or her self-concept or lack of desire to cope with reality—even after hundreds of hours of counseling—then psychologists, business leaders, and politicians can all continue to manage their provenances in the usual way. In short, members of a culture, be they ordinary people or people in power, are not led to examine seriously, to challenge, or to change even personal-orbit local contingencies—let alone broad social-system metacontingencies—when widespread personal problems that occur within that system are viewed as troubles arising out of common human failings rather than as issues arising out of fundamental failures of the culture's political, economic, legal, religious, educational, mental-health, and other institutions of social control.

To summarize and conclude this part of our discussion, American society has extensively supported majority views in psychology, sociology, and anthropology which are either irrelevant or, worse, obstructive, with respect to providing accurate descriptions of the issues of our time. The alternatives—environmental-contingency-centered world views such as radical behaviorism and cultural materialism—are paradigm deviations that identify as fundamental sources of social problems those contingencies and metacontingencies which have been badly arranged by the political and economic gatekeepers of America. The solutions necessarily suggested by radical behaviorism and cultural materialism—suggestions to rearrange those contingencies and metacontingencies—most often conflict with the immediate vested interests of those gatekeepers. Thus, the power elite in all sectors of our culture continue to support psychological, sociological, and anthropological world views which, at very best, occasionally provide a little post-damage repair for a scatter of indi-

viduals, but which most assuredly do not threaten the status quo. They have been selected mainly *because* of that lack of threat. They often, in fact, provide rationales and legitimations *for* current practices. What could be less threatening to the status quo than psychologists, sociologists, and anthropologists posturing as scientists, and accruing the ceremonial authority attached to that posture, who solemnly provide mystifying and obfuscating conceptualizations of human social life, who simply offer as *scientific* wisdom nothing more than minor—if often highly verbal—variations of an outmoded and tired conventional cultural wisdom?

## WHITHER BEHAVIOR ANALYSIS?

Does the foregoing interpretation necessarily imply that all is lost, and that both budding and fully-flowered behavior analysts and cultural materialists either ought to head for the hills or adulterate their views by somehow safely incorporating the conventional mentalistic, creationistic, psychocentric wisdom? It is our position that neither of these alternatives can increase the likelihood of survival of either the radical behavioristic or cultural materialistic perspectives, of the better aspects of American cultural practices, or of our species. Heading for the hills (or certain of the mustier corridors in the hallowed halls of academe) merely provides the illusion of escape, and—unlike the situation regarding technology transfer (cf. Pennypacker, 1986)—behavior analysts and cultural materialists cannot "buy in" to the conventional wisdom without "selling out" the fundamental features of their natural-science approaches to the study of behavior. It seems reasonable to us to consider a third alternative that we feel comfortable in suggesting, at least to behavior analysts (we hope, of course, that cultural materialists would agree with the basics of this alternative): to continue to strengthen and expand the basic foundations of behavior analysis and to continue to develop and strengthen functional ties with cultural materialism and other compatible and complementary viewpoints within the social sciences. We do not suggest this simply to give us something interesting with which to fiddle while Rome burns. It should be obvious that it is not our failure to see the flames eating away at failing social institutions that leads us to make such an apparently optimistic suggestion. To the contrary, it is that we in fact see in those flames a glimmer of hope for the future. Let us elaborate.

### *Open Moments*

As noted earlier at several points in this paper, certain aspects of our culture have been rapidly changing during the past 40 years. The most significant of these changes are the transition from the baby boom to sub-zero population growth and the rise of oligopolies and immensely bloated bureaucracies. The change in rate of population growth is a good thing, overall. That big business and big government have become increasingly synonymous with waste, inefficiency, and shoddiness is both good and bad. The bad part is that, as citizens, we behavior analysts have had to suffer the consequences of these changes along with everyone else, and we all will continue to suffer more of the kind, or worse, as long as business and government remain on their present courses. The good part is that as America increasingly approaches the point of becoming a third-class world power—as its infrastructural practices involved in the production of goods and services continue to deteriorate—our political and economic leaders will be increasingly pressured to seek those system-changing innovations which will be necessary for solving many of America's most serious and culturally debilitating problems. As Harris (1978) has put it, some moments in the course of evolution of cultures are more "open" than others, moments when cultures are more likely to change directions rather than continue to proceed linearly. The most open moments are those at which a mode of production reaches its limits of growth and

a new mode of production must soon be adopted in order to maintain standards of living within the culture and to survive against competing cultures. There is much economic evidence available that suggests that oligopolized and bureaucratized America may be at the threshold of systemic failure as it reaches that limit of growth (e.g., Kennedy, 1987). Increasingly, political and business leaders, and ordinary people as well, are searching for solutions.

The question that we behavior analysts should be asking ourselves is where we are now with respect to our abilities to offer to our culture workable behavior analytically based alternatives to current political, economic, and educational practices, and where we will be when the evolutionary temporal envelope becomes most open to system-changing alternatives. That time may be upon us now, it may come tomorrow, or it may be decades away. No one can tell precisely *when* that time will come, but if the picture of cultural evolution painted by cultural materialism is fundamentally sound, then the occurrence of such an open envelope is essentially inevitable.

### *A Conservative Demurral and a Warning from Mills*

Undoubtedly, some behavior analysts will argue that it is neither necessary nor appropriate for our discipline to concern itself greatly and formally with such global sociocultural issues as those discussed here. They might likely advise conservatively that behavior analysts should simply continue to follow the path pursued by conventional psychology and remain content to analyze and repair what are most often viewed as largely unrelated scatters of troubles. Although we disagree with this position, we recognize arguments that can be advanced in support of it: Individual troubles are easier to analyze than are cultural issues, and some troubles can be repaired in isolation and even prevented from occurring. To the extent to which we behavior analysts have already provided these services to our culture, we have been rewarded with employment, grants, and a modicum of cer-

emonial prestige, and we will likely continue to be treated in the same manner for some time to come. There are aspects of contemporary behavior analysis which suggest that this view might even indeed represent the majority opinion within our discipline. Some of these aspects, interestingly enough, resemble several of the practices within sociology that led Mills (1959) nearly 30 years ago to foresee that the main thrust of sociology's world view would gravitate away from a central concern with issues toward a diffuse and disorganized study of scattered troubles. Accordingly, it may be instructive to review briefly those sources of Mills' concerns.

Mills saw these signs of the shift from a central concern with developing a comprehensive framework for understanding sociocultural systems as a whole, and for characterizing interactions among constituent parts of those systems, toward psychocentricism and independent microstrategies: (1) epistemological anarchy in grand theory building; (2) confusion of the legitimations of society as its causes (that is, increasing subscription to a cognitive rule-governance model of behavior); (3) the growth in popularity of abstract empiricism (sociology's version of methodological behaviorism or undirected operationism in which mundane methodological considerations become the principal criteria for defining the importance of phenomena studied); (4) a tendency toward psychologizing the subject matter of sociology with a corresponding emphasis on studying varied local social settings and a consequent advocacy of idiosyncratic causation; and (5) an increase in the training of graduate students as apolitical technicians.

All of these features of 1950s sociology can be applied without much modification in describing prevailing practices of contemporary conventional psychology. Unfortunately, at least the last three of these practices also significantly characterize parts of contemporary behavior anlaysis, and we worry about the extent to which the second may similarly come to do so. Behavior analysts, like conventional psychologists, sociologists, and anthropologists, are not immune to the cul-

tural contingencies which serve to dampen, rather than amplify, deviant practices. We behavior analysts were products of our culture before donning our professional robes, and we remain products of our culture while wearing them. Like all members of our culture, we encounter assorted troubles in daily life and tend to focus on "the close-up scenes" of our personal orbits in our attempts to alleviate them. In so doing, we are at risk of constraining our world-view perspectives to dimensions just sufficiently broad to encompass those orbits. Like all members of our culture, we are strongly influenced in our world views by our occupations and work settings. A high percentage of behavior analysts reside in departments of psychology, surrounded by conventional psychologists, and/or received their graduate training in psychology departments; enough has already been said here about the ordinary scope of perspective of conventional psychologists, and little need be added here about their powers to induce conformity to it (cf. Branch & Malagodi, 1980).

### *A Radical Rejoinder*

There are other causes for our concern that the discipline of behavior analysis might evolve to more closely resemble conventional psychology with respect to limiting the scope of its interests, instead of following the path of expanding that scope to include concerns historically allocated mainly to the social sciences. One of these causes for our concern, which we admit might appear a bit frivolous at first glance, is the tendency of many members of our discipline to prefer the terms *behavior analysis, behavior analytic,* and *behavior analyst* over the terms *radical behaviorism, radical behavioristic* (or, *radically behavioristic*), and *radical behaviorist.* The first set of terms is most usually preferred over the second set in circumstances when either set will suffice, and far too often used, it appears to us, when the behavioristic set is more appropriate. We can only conjecture why this may be so, but we must admit our fondness for considering seriously the possibility that avoidance of the term *radical* is at least as operative here as is avoidance of the term *behavior*ism.

We do not see why this should be so, if we allow ourselves the luxury of suspending our familiarity with our culture's common treatment of the term *radical.* Common cultural usage notwithstanding, the term *radical* quite properly encompasses three aspects of Skinner's brand of behaviorism, the brand that indeed stands quite secure at the base of our discipline. The three meanings of radical that apply to our ism are: (1) "of or pertaining to roots or origins;" (2) "thoroughgoing or extreme;" and (3) "favoring drastic political, economic, or social reform" (cf. Malagodi, 1986). Even the most shyly academic of behavior analysts should have little difficulty in identifying with the first and second of these definitions. To be "thoroughgoing in getting to the root causes of things" certainly appears to be a generally admirable sort of trait, especially in a culture that reveres the Protestant ethic and advocates pragmatism as much as does ours. This leaves as the remaining possibility that the third definition of radical causes problems for some behavior analysts. If we now cancel our suspension of familiarity with our culture's common treatment of this aspect of the term *radical*—especially its treatment during the past 15 years or so—we can understand why some members of our discipline might find it difficult to adopt this meaning as being descriptive of their interests and intentions. For those individuals we can only offer the following advice and commentary on being radical:

> At every crossway on the road that leads to the future, each progressive spirit is opposed by a thousand men appointed to guard the past. Let us have no fear lest the fair towers of former days be sufficiently defended. The least that the most timid among us can do is not to add to the immense dead weight which nature drags along. . . .
>
> The average, the decent moderation of today, will be the least human of things tomorrow. At the time of the Spanish Inquisition, the opinion of good sense and of the good medium was certainly that people ought not to burn too large a number of heretics; extreme and unreasonable opinion obviously demanded that they should burn none at all (Maeterlinck, 1907/1911).

All of this is a way of expressing our conviction that an unabridged appreciation of, and unabashed commitment to, the radical behaviorism side of our discipline is one of the best safeguards behavior analysts have against the deviation-dampening, world-view-constraining contingencies that exist in our personal histories, in our culture at large, and in our professional residences.[5] Radical behaviorism provides the conceptual framework that delineates some of the major dimensions of the issues side of our discipline—the side that has given us *Walden Two* (Skinner, 1948), *Beyond Freedom and Dignity* (Skinner, 1971), and other examples of the potential power and scope of behavior analytic thinking applied to sociocultural matters. Radical behaviorism is much more than just a "philosophy of science" in the conventional narrow usage of that phrase. It is a comprehensive world view, similar to Darwinian evolutionary theory in many respects (and, in fact, an outgrowth of it), that recognizes few a priori limiting boundaries for its behavioral universe of discourse, other than those indigenous to natural-science approaches in general. Radical behaviorism, grandly theoretical though it may be, is both a stabilizing and creative force within the discipline of behavior analysis. It is stabilizing in the sense in which it remains unremitting in its dedication to deriving its fundamental concepts and principles from functional analyses of the behaviors of individual organisms, and it is creative in the sense in which it consistently pursues the extension of those concepts and principles to an ever-increasing horizon of behavioral phenomena.

However, radical behaviorism and the discipline of behavior analysis are currently limited with respect to the scope of their accomplishments in cultural analysis. Behavior analysts thus far have not developed on their own an empirical base that directly describes specific inventories of cultural practices and their evolution in time and in place. Neither has radical behaviorism developed many concepts and principles of its own that fully characterize sociocultural systems, Skinner's (1948, 1953, 1971, 1974) considerable contributions in this regard notwithstanding. This should not surprise us, for the discipline of behavior analysis and the world view of radical behaviorism have both been embedded within the general field of psychology. These aspects of our discipline should not be viewed as being inherently limiting, however. Radical behaviorism's commitment to developing a truly thoroughgoing world view has been one of its most definitive features. As Skinner (e.g., 1953, 1969, 1971, 1974) was not shy in incorporating certain facts and principles of natural selection from evolutionary biology in developing the fundamentals of radical behavioristic theory, there is little reason to suspect that he and other radical behaviorists will shy away from incorporating comparable facts and principles of cultural selection from evolutionary anthropology and other relevant disciplines.

The initiative shown by some behavior analysts in carefully examining cultural materialism (e.g., Biglan, 1988; Glenn, 1987, 1988; Lloyd, 1985, 1987; Malagodi, 1986; Malagodi & Jackson, 1987; Malott, 1987; Vargas, 1985, 1987), and in establishing mutually satisfying and productive relationships with its advocates, is evidence that at least some members of our discipline who are concerned about human affairs have recognized that the time has long-ago passed since behavior analysts could afford the luxury of waiting for the experts in other relevant disciplines to come to us in breathless anticipation of the wisdom we might possibly deign to put forth. We hope that this initiative will be replicated again and again by behavior analysts who might perhaps be more interested in other specialty areas (e.g., economics, political science, environmental sciences, history, sociology, public health, etc.), and we strongly advocate that behavior analysts

[5] This is not to suggest that behavior analysts should not be actively involved in changing those deviation-dampening world-view-constraining contingencies wherever they exist. Radical behaviorism necessarily guides such action, we believe.

in general realize that they must now be prepared to become experts themselves in the special domains assigned to these assorted disciplines, despite the heavy initial response costs of doing so.

The alignment of radical behaviorism with cultural materialism that has thus far taken place is a major step toward building upon the cultural analytic potential of the discipline of behavior analysis. The interplay between radical behaviorism and cultural materialism can strengthen each of these two strains of Darwinian thought. Radical behaviorism can be strengthened by following cultural materialism's unwavering focus on infrastructural contingencies and metacontingencies, by recognizing the existence of specific sorts of interlocking relationships among infrastructural, structural, and superstructural cultural practices, and by distinguishing between system-changing and system-maintaining cultural innovations. Cultural materialism can be strengthened by adopting radical behaviorism's unmitigated positivism in its conceptualization of verbal behavior and private events, by behavioristically refining its list of "bio-psychological selective principles," by developing an epistemological stance based on a functional analysis of verbal behavior rather than structural psycholinguistic principles, and by ridding itself of one of its few vestigial appendages inherited from its prescientific ancestry—the acceptance (albeit halfhearted) of the notion of individual free will. The strengthening and blending of these two world views may indeed by necessary (but, alas, not sufficient) conditions for the survival of each in a world which is ever prepared to note their respective weaknesses or areas of incompleteness and thereby rationalize the wholesale dismissal of the isms as such and of their scientific bases. If we have enough time, together radical behaviorists and cultural materialists can develop a truly comprehensive *world view* in which both troubles and issues are properly treated, and perhaps assist more fully in the building of a *world* in which we are not troubled by the issues which beset us today.

## REFERENCES


Azrin, N. (1978). Toward a solution: A critique. *Journal of Applied Behavior Analysis, 11,* 175.

Biglan, A. (1988). Behavior analysis and the larger context. *Behavior Analysis, 23,* 25–32.

Birnbrauer, J. S. (1978). Better living through behaviorism? *Journal of Applied Behavior Analysis, 11,* 176–177.

Branch, M. N., & Malagodi, E. F. (1980). Where have all the behaviorists gone? *The Behavior Analyst, 3,* 31–38.

Educational Testing Service (1985). *Directory of Graduate Programs: 1986 & 1987.* Princeton, NJ: Author.

Glenn, S. S. (1985a, October). *Behavioral selection and cultural contingencies.* Paper presented at the meeting of the Southeastern Association for Behavior Analysis, Charleston, SC.

Glenn, S. S. (1985b). Some reciprocal roles between behavior analysis and institutional economics in post-Darwinian science. *The Behavior Analyst, 8,* 15–27.

Glenn, S. S. (1986). Metacontingencies in Walden Two. *Behavior Analysis & Social Action, 5,* 1–8.

Glenn, S. S. (1987, May). Social contingencies in Marvin Harris's infrastructure, structure and superstructure. In H. S. Pennypacker (chair), *Behavior analysis and cultural materialism: Toward integration.* Symposium conducted at the meeting of the Association for Behavior Analysis, Nashville, TN.

Glenn, S. S. (1988). Contingencies and metacontingencies: Toward a synthesis of behavior analysis and cultural materialism. *The Behavior Analyst, 11,* 161–179.

Goldiamond, I. (1974). Toward a constructional approach to social problems: Ethical and Constitutional issues raised by applied behavior analysis. *Behaviorism, 2,* 1–84.

Goldiamond, I. (1978). The professional as a double-agent. *Journal of Applied Behavior Analysis, 11,* 178–184.

Goldstein, M. K. (1986). He has acted to save the world: Award to Marlin Schneider, Wisconsin State Representative. *The Behavior Analyst, 9,* 193–196.

Harris, M. (1974). *Cows, pigs, wars, and witches.* New York: Random House.

Harris, M. (1978). *Cannibals and kings: The origins of cultures.* New York: Random House.

Harris, M. (1980). *Cultural materialism: The struggle for a science of culture.* New York: Random House.

Harris, M. (1981). *America now: The anthropology of a changing culture.* New York: Simon and Schuster.

Hayes, S. C., & Brownstein, A. J. (1986). Mentalism, behavior-behavior relations, and a behavior-analytic view of the purposes of science. *The Behavior Analyst, 9,* 175–190.

Holland, J. G. (1978a). Behaviorism: Part of the problem or part of the solution? *Journal of Applied Behavior Analysis, 11,* 163–174.

Holland, J. G. (1978b). Toward a solution: A re-

joinder. *Journal of Applied Behavior Analysis, 11,* 185–187.

Kennedy, P. (1987). *The rise and fall of the great powers.* New York: Random House.

Lloyd, K. E. (1985). Behavioral anthropology: A review of Marvin Harris' *Cultural Materialism. Journal of the Experimental Analysis of Behavior, 43,* 279–287.

Lloyd, K. E. (1987, May). Emics and etics. In H. S. Pennypacker (chair), *Behavior analysis and cultural materialism: Toward integration.* Symposium conducted at the meeting of the Association for Behavior Analysis, Nashville, TN.

Maeterlinck, M. (1911). Our social duty. In *The measure of the hours* (A. T. DeMattos, Trans., pp. 85–105). New York: Dodd, Mead. (Original work published 1907)

Malagodi, E. F. (1986). On radicalizing behaviorism: A call for cultural analysis. *The Behavior Analyst, 9,* 1–17.

Malagodi, E. F., & Jackson, K. (1987, May). Behavior analysts/cultural analysis: Troubles and issues. In H. S. Pennypacker (chair), *Behavior analysis and cultural materialism: Toward integration.* Symposium conducted at the meeting of the Association for Behavior Analysis, Nashville, TN.

Malott, R. W. (1987, May). Behavioral anthropology and rule-governed behavior. In H. S. Pennypacker (chair), *Behavior analysis and cultural materialism: Toward integration.* Symposium conducted at the meeting of the Association for Behavior Analysis, Nashville, TN.

Mills, C. W. (1959). *The sociological imagination.* New York: Oxford University Press.

National Science Foundation. (1986, October). *Early release of summary statistics on academic science/engineering resources.* Washington, DC: Author.

Pennypacker, H. S. (1986). The challenge of technology transfer: Buying in without selling out. *The Behavior Analyst, 9,* 147–156.

Sarason, S. S. (1981). *Psychology misdirected.* New York: Free Press.

Skinner, B. F. (1948). *Walden two.* New York: Free Press.

Skinner, B. F. (1953). *Science and human behavior.* New York: Macmillan.

Skinner, B. F. (1969). Behaviorism at fifty. In *Contingencies of reinforcement: A theoretical analysis* (pp. 221–268). New York: Appleton-Century-Crofts.

Skinner, B. F. (1971). *Beyond freedom and dignity.* New York: Alfred A. Knopf.

Skinner, B. F. (1974). *About behaviorism.* New York: Alfred A. Knopf.

Skinner, B. F. (1978). *Reflections on behaviorism and society.* Englewood Cliffs, NJ: Prentice-Hall.

Skinner, B. F. (1981). Selection by consequences. *Science, 213,* 501–504.

Skinner, B. F. (1986). What is wrong with daily life in the Western World? *American Psychologist, 41,* 568–574.

Vargas, E. A. (1985). Cultural contingencies: A review of Marvin Harris's *Cannibals and Kings. Journal of the Experimental Analysis of Behavior, 43,* 419–428.

Vargas, E. A. (1987, May). Cultural materialism, radical behaviorism, and evolutionary Darwinism: Feedback control. In H. S. Pennypacker (chair), *Behavior analysis and cultural materialism: Toward integration.* Symposium conducted at the meeting of the Association for Behavior Analysis, Nashville, TN.